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## Follow-Up of Sex Reassignment Surgery in Transsexuals: A Brazilian Cohort

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**Abstract** This study examined the impact of sex reassignment surgery on the satisfaction with sexual experience, partnerships, and relationship with family members in a cohort of Brazilian transsexual patients. A group of 19 patients who received sex reassignment between 2000 and 2004 (18 male-to-female, 1 female-to-male) after a two-year evaluation by a multidisciplinary team, and who agreed to participate in the study, completed a written questionnaire. Mean age at entry into the program was  $31.21 \pm 8.57$  years and mean schooling was  $9.2 \pm 1.4$  years. None of the patients reported regret for having undergone the surgery. Sexual experience was considered to have improved by 83.3% of the patients, and became more frequent for 64.7% of the patients. For 83.3% of the patients, sex was considered to be pleasurable with the neovagina/neopenis. In addition, 64.7% reported that initiating and maintaining a relationship had become easier. The number of patients with a partner increased from 52.6% to 73.7%. Family relationships improved in 26.3% of the cases, whereas 73.7% of the patients did not report a difference. None of the patients reported worse relationships

with family members after sex reassignment. In conclusion, the overall impact of sex reassignment surgery on this cohort of patients was positive.

**Keywords** Sex reassignment surgery · Transsexualism · Gender identity disorder · Sexuality · Brazil

### Introduction

Transsexualism—the desire to belong to the opposite sex and to make the body congruent with the preferred sex through surgery and hormone treatment (American Psychiatric Association, 2002; World Health Organization, 1992)—is a highly disabling disorder, characterized by intense psychological suffering. Its onset usually occurs during childhood (Gelder, 1996).

Based on current statistics, transsexualism can be considered a rare phenomenon (1:40,000 in males and 1:100,000 in females) (Gelder, 1996; Green, 2005). However, it is likely that underreporting of this condition occurs as a result of fear on the part of transsexual individuals and prejudice on the part of society at large. In any case, the severe consequences of transsexualism and the complexity of sex reassignment surgery (SRS) have warranted the creation of many support programs worldwide.

In general, the results of SRS have been reported to be positive across different countries and cultures (Cohen-Kettenis & van Goozen, 1997; Krege, Bex, Lummen, & Rubben, 2001; Rakic, Starcevic, Maric, & Kelin, 1996; Rehman, Lazer, Benet, Schaefer, & Melman, 1999). However, to our knowledge, no data are available concerning the outcome of SRS in Latin American countries.

In Brazil, it was not until 1997 that the Federal Council of Medicine standardized the care provided to transsexual

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individuals (Conselho Federal de Medicina, 1997). That resolution established as minimum eligibility requirements for SRS in these patients: having been followed by a multidisciplinary team for at least two years before the surgery and age  $\geq 21$  years. However, the surgery was still categorized as “Experimental.” In 2002 (Conselho Federal de Medicina, 2002), male-to-female SRS was accepted as standard, “medically-necessary” treatment, whereas female-to-male SRS retained its experimental character. The Brazilian public health system does not cover either type of SRS; however, a local agreement with the health department was established in the state of Rio Grande do Sul, ensuring free access to SRS in the presence of a diagnosis of transsexualism.

The need to evaluate and follow-up on candidates to SRS led to the creation, in 1999, of an interdisciplinary program for the care of transsexual patients at Hospital de Clínicas de Porto Alegre (HCPA), a public teaching hospital in southern Brazil. The Gender Identity Disorder Program (PROTIG) provides diagnostic evaluation as well as psychiatric, psychological, urological, social, gynecological, and clinical support to patients diagnosed with transsexualism (Lobato et al., 2001). Since 1999, 121 patients have been diagnosed (16 females and 105 males) and enrolled in the program. The program faced accreditation difficulties in 2001 and in 2003, causing a delay in the schedule of surgeries. Thus, 30 patients received SRS between 2000 and 2003.

The objective of the present study was to describe this group of Brazilian patients who received sex reassignment and to investigate the impact of SRS on their satisfaction with sexual experience, partnerships, and relationships with family members.

## Method

### Participants

Before inclusion in the PROTIG, the patients participated in an initial screening interview. A semi-structured clinical interview was also performed to detect the presence of physical and psychiatric comorbidities. Inclusion criteria were a diagnosis of gender identity disorder following DSM-IV-TR criteria (American Psychiatric Association, 2002) and the signature of an informed consent form by the patient. Exclusion criteria were the presence of psychotic disorder (1 patient), physical intersex conditions (1 patient), addiction to psychoactive substances (1 patient), and age below 16 years (2 patients). After inclusion in the Program, the patients met with a psychiatrist or psychologist monthly and attended bi-weekly group sessions. After two years of regular participation in the Program, a multidisciplinary evaluation was carried out and SRS was performed if indicated. Initially, only homosexual individuals according to the criteria described by

Cohen-Kettenis (2005) and Smith, van Goozen, Kuiper, and Cohen-Kettenis (2005) were considered for surgery. Briefly, those authors define as homosexuals male-to-female transsexuals attracted to biological males, and female-to-male transsexuals attracted to biological females.

Of the 116 patients enrolled in PROTIG since 1999, 30 received SRS and 26 dropped out of the program. The reasons for dropping out were: patients joined a different program, moved to a different state or gave up treatment. The patients who dropped out did not differ from the ones who stayed in the program in terms of demographic or psychological/psychiatric characteristics. Of the remaining 60 patients, nine (female-to-male) have not received SRS because they have not yet resolved their insecurity about the results (they fear surgery will not have the desired effect), and the other 51 patients have less than two years of follow-up. It should be noted that all our patients are classified as Type I transsexuals. That means that the desire to belong to the opposite sex appeared very early in their lives (Cohen-Kettenis, 2005; Smith, van Goozen, Kuiper, & Cohen-Kettenis, 2005; Stoller, 1993). The mean self-reported age at the first episode of childhood role-switching (impersonation of the opposite sex) was  $5.22 \pm 1.56$  years (range, 4–8 years) for operated patients,  $5.25 \pm 1.72$  years (range, 2–11 years) for non-operated patients, and  $5.25 \pm 1.69$  years (range, 2–11 years) for the entire cohort, respectively; for cross-dressing in public,  $14.89 \pm 5.00$  years (range, 8–26),  $15.34 \pm 4.68$  years (range, 6–26), and  $15.22 \pm 4.75$  years (range, 6–26), respectively; and for the beginning of hormone therapy,  $19.55 \pm 7.80$  years (range, 11–42),  $19.64 \pm 6.73$  years (range, 9–47) and  $29.62 \pm 7.01$  years (range, 9–47), respectively.

### Study protocol

Between April 2000 and April 2003, 30 sex reassignment procedures were performed at HCPA (29 male-to-female and one female-to-male). The inclusion criterion for entry in this study was SRS at least one year before the interview. Thus, four patients were not eligible and 26 patients (two from a different state) were contacted over the phone or during office visits to the hospital. Seven were lost to follow-up and 19 agreed to participate in the study.

Of these 19 patients, 18 had undergone male-to-female sex reassignment, and one female-to-male sex reassignment. Mean age was  $26.1 \pm 8.3$  years (18–47 years). Mean schooling was  $9.2 \pm 1.4$  years (4–16 years). The time since SRS ranged from 1 year to 2.5 years (M,  $24.9 \pm 10.2$  months).

Table 1 describes the main characteristics of the group who received SRS, of the group that did not receive surgery, and of the entire cohort receiving care at PROTIG. Table 2 describes the psychopathological features of the same groups.

**Table 1** Main features of the population receiving care at the Hospital de Clínicas Gender Identity Disorder Program–PROTIG<sup>a</sup>

Variable	Study population	Non-operated	Entire cohort <sup>b</sup>
Sex (male)	18/19 (94.7%)	74/86 (86%)	102/116 (88.2%)
Mean age at entry into the program	31.21 ± 8.57 (18–47) (19/19)	29.11 ± 9.0 (16–54) (84/86)	29.37 ± 9.1 (16–54) (114/116)
Wechsler Adult Intelligence Scale III mean scores	88.73 ± 10.4 (69–103) (11/19)	84.10 ± 11.0 (69–107) (21/86)	86.89 ± 10.8 (69–107) (38/116)
Relationships			
Single	13/19 (68.4%)	68/86 (79.1%)	84/116 (72.4%)
Stable partner	6/19 (31.6%)	18/86 (20.9%)	32/116 (27.6%)
Family history			
Homosexual family member	2/15 (13.3%)	24/57 (42.1%)	27/74 (36.5%)
Transvestite family member	0/15 (0.0%)	5/53 (9.4%)	5/70 (7.1%)
Transsexual family member	0/15 (0.0%)	3/57 (5.3%)	3/74 (4.1%)
Role-switching games in childhood	18/19 (94.7%)	78/83 (94.0%)	104/111 (93.7%)
Has sexually-transmitted disease	4/19 (21.1%)	18/81 (22.2%)	23/111 (20.7%)
HIV-positive	3/18 (16.7%)	14/59 (23.7%)	17/88 (19.3%)

<sup>a</sup>The total number of patients in each category was as follows: operated patients = 30; study population = 19; non-operated = 86 (including patients who dropped out); entire cohort = 116. Information concerning specific variables was not available for some patients in each category, as indicated.

<sup>b</sup>Includes data from patients who were lost to follow-up, dropped out or were not eligible for the study (surgery < 1 year at the time of the study).

<sup>c</sup>Refers to first and second degree relatives (parents, siblings, aunts and uncles and grandparents).

## Measures

A questionnaire was designed by the interdisciplinary PROTIG team for assessment of three dimensions of follow-up: satisfaction with sexual experience, partnerships, and relationship with family members. The questionnaire has 18 multiple choice and descriptive questions which were answered by the patient following an interview. The descriptive answers were grouped as positive, negative or indifferent following consensus among the team members (social worker, nurse, psychologist, psychiatrist, bioethicist, and urologic surgeon).

The patients were asked to describe their life after the surgery, to describe any regrets concerning the surgery, and to provide information on hormone use, stable partnerships before and after SRS, ease of starting/maintaining a relationship after SRS, relationship with the family after SRS, sexual satisfaction after SRS, frequency of sex after SRS, frequency and degree of pleasure with anal sex after SRS, pleasure with the neovagina/penis, prostitution, use of condoms, STDs, HIV and the importance of psychological or psychiatric counseling after the surgery. Finally, the patients were asked to evaluate PROTIG.

**Table 2** Psychopathological characteristics of the population receiving care at the Hospital de Clínicas Gender Identity Disorder Program–PROTIG<sup>a</sup>

Variable	Study population	Non-operated	Entire cohort <sup>b</sup>
Suicide attempt	6/19 (31.6%)	7/84 (8.3%)	14/113 (12.4%)
Psychiatric admission	0/19 (0.0%)	4/85 (4.7%)	5/115 (4.3%)
Self-mutilation	2/19 (10.5%)	3/85 (3.5%)	7/115 (6.1%)
Previous psychiatric treatment	4/19 (21.1%)	28/85 (32.9%)	36/115 (31.3%)
Type of treatment chosen (psychotherapy)	3/4 (75.0%)	19/27 (70.4%)	24/33 (72.7%)
Family history of mental disorder <sup>c</sup>	10/19 (52.6%)	47/86 (54.7%)	62/116 (53.4%)
Sexual abuse victim	2/19 (10.5%)	16/84 (19%)	19/114 (16.7%)
Involvement with the police	0/13 (0.0%)	6/52 (11.5%)	6/66 (9.1%)

<sup>a</sup>The total number of patients in each category was as follows: operated patients = 30; study population = 19; non-operated = 86 (including patients who dropped out); entire cohort = 116. Information concerning specific variables was not available for some patients in each category, as indicated.

<sup>b</sup>Includes data from patients who were lost to follow-up, dropped out or were not eligible for the study (surgery < 1 year at the time of the study).

<sup>c</sup>Refers to first and second degree relatives (parents, siblings, aunts and uncles and grandparents).

## Results

The mean age at SRS was  $33.16 \pm 8.6$  years. None of the study patients reported regret for having received the surgery. Sexual experience after SRS was considered to have improved by 83.3% of the patients. It was rated as poor or very poor by 11.2% of the patients; all others rated sexual experience as regular to excellent. One patient had abstained from sex since the surgery. Sexual experience became more frequent after the surgery for 64.7% of the patients. For 83.3% of the patients, sex was considered to be pleasurable with the neovagina/neopenis.

In terms of partnerships, 64.7% reported that initiating and maintaining a relationship had become easier after SRS. The number of patients with a partner increased from 52.6% (before SRS) to 73.7% (after SRS), but the difference was not statistically different (McNemar's test,  $p = .125$ ).

When asked about family relationships, 26.3% reported an improvement, whereas 73.7% did not report a difference. None of the patients reported worse relationships with family members.

## Discussion

The present results indicate that SRS had a positive effect on different dimensions of the patients' lives in all three aspects analyzed: sexual relationships, partnerships, and family relationships. These data agree with those of previous studies showing the beneficial effects of SRS (Cohen-Kettenis & van Goozen, 1997; Smith, Cohen, & Cohen-Kettenis, 2002). During preoperative assessment, patients often described the difficulties of having satisfactory relationships. The fact that transsexuals often prefer to maintain relationships with heterosexual individuals contributes to the difficulty, since it implies understanding and acceptance of the transsexual condition by the partner. In addition, male-to-female transsexual patients avoided using their penis and described anal sex as unsatisfactory. For those patients, the neovagina provided increased satisfaction and a decrease in the feeling of inappropriateness associated with the disorder, despite the functional limitations of the neovagina or neopenis.

The process of social adaptation of transsexual patients involves several biopsychosocial variables. The first aspect to be considered is the feasibility of changing the patient's legal identity, which facilitates regular employment and enrollment in school programs, in addition to decreasing the feeling of shame often associated with this condition. This is particularly important, since the prejudice against transsexuals often leads them to abandon their families early and to avoid formal education. Thus, many have never received technical or professional training and are socially excluded.

The high prevalence of HIV-positive individuals found in this study (Mean age  $33.88 \pm 8.25$ ) may be associated with risky sexual behaviors (prostitution and unprotected sex). This prevalence (17.1% for the entire cohort) is higher than that reported by the Brazilian Federal Department of Health for the 15 to 49 year age group in the general population, which is 0.65% (95% CI: .51-.80) (Ministério da Saúde, 1999). The treatment of HIV is entirely covered by the public health system in Brazil.

Five patients were lost to follow-up after SRS. This could be explained by the patients' strong focus on the surgery itself (Lawrence, 2003) and by the desire to begin a "new life" (Beatrice, 1985). It is important to stress that this distancing is observed in transsexualism support centers throughout the world (Monstrey et al., 2001), making it difficult to implement other interventions, such as psychoanalytically-oriented psychotherapy and family therapy, after SRS.

The type of assistance provided by PROTIG to transsexuals is new in Brazil. Therefore, it is important to evaluate the program's impact on patients, their families, and society in general. Since the start of the program, our main contributions, in addition to the support *per se*, refer to making legal authorities more sensitive to the importance of providing a new identity for individuals receiving SRS and to securing free access to SRS. Despite the limitations of this study, including the absence of a control group, the small number of cases, and the brevity of the follow-up period, we were able to collect novel data concerning the largest Brazilian cohort of transsexual patients. This will certainly contribute toward the knowledge of diagnostic, treatment, and prognostic aspects associated with this disorder in developing countries.

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